CLAIMS

I Claim:

1. A system for dynamic scheduling of broadcast digital data content to client devices, said digital data content available from one or more sources, and said scheduling based on type of data and activity of said system, said system comprising:

a digital broadcast system comprising one or more gateways, said gateways receiving and intelligently broadcasting said one or more selections of digital data content, said one or more gateways comprising:

a scheduler receiving said data content, said scheduler separating said received content into a first and second type;

said scheduler, scheduling broadcast of said first type of data content to said client devices during selective first broadcast periods;

said scheduler, scheduling broadcast of said second type of data content to said client devices during selective second broadcast periods; and

said data content enabled for use during a scheduled time period after a recombination of said broadcasted first and second types of data content at said client.

2. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first data type requires a high bandwidth and said second data type requires a relatively lower bandwidth.

3. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein rendering of said recombined data is performed upon reception of an instruction to enable a flag, said flag received by said client devices from said scheduler.

4. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 3, wherein said scheduler broadcasts to said client devices a time-to-live value that specifies a time interval that said client devices are to wait for the reception of said flag, and upon expiration of said time interval, said client device deleting at least a part of said recombined data.

5. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first data type comprises any of, or a combination of: images, fixed display data, graphics, song compilations, digital data purchases, maps, e-books, or newspapers.

6. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said second type comprises any of, or a combination of: text or audio to

accompany said images, fixed display data, or graphics; new songs, traffic conditions, and data to complete first type downloads.

7. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first broadcast period comprises low broadcast and/or client usage periods.

8. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said second broadcast period comprises high broadcast and/or client usage periods.

9. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said first broadcast period comprises a period of relative low activity of said broadcasts or client usage and said second broadcast period comprises relatively high activity of said broadcasts or client usage.

10. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein first data type is broadcast before said second data type.

11. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 10, wherein said first data type is broadcast with a deactivate flag enabled so that it will be stored at said client, but not activated for immediate use.

12. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 11, wherein said second data type is broadcast with a deactivate flag enabled so that it will be stored at said client, but not activated for immediate use.

13. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 12, wherein when the data content is activated, a disable deactivate flag is broadcast to said client.

14. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said client is a digital consumer electronics radio.

15. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said client is any of a: handheld computer device, wireless telephone, radio telephone, portable computer, or consumer electronics.

16. A system for dynamic scheduling of broadcast digital data content to client devices, as per claim 1, wherein said data content sources include any of, or a combination of: electronic advertisers, the Internet, the world wide web, ISPs, or connected digital libraries.

17. A method for dynamic scheduling of broadcast digital data content to client devices, said method comprising:

receiving data content from content providers;

separating said data content into a first and second type;

scheduling said first data type to be broadcast during a first time period;

scheduling said second data type to be broadcast during a second time period;

broadcasting to one or more clients said first and second data types during their respective time periods such that they can be appropriately recombined at said clients; and

sending an activation message to said client to activate use of said recombined data types during a scheduled time period.

18. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said method further comprises the step of sending a cancellation message to said client to delete at least a part of said recombined data.

19. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first data type requires a high bandwidth and said second data type requires a relatively lower bandwidth.

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20. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first data type comprises any of, or a combination of: images, fixed display data, graphics, song compilations, digital data purchases, maps, e-books, or newspapers.

21. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 20, wherein said second type comprises any of, or a combination of: text or audio to accompany said images, fixed display data, or graphics; new songs, traffic conditions, and data to complete first type downloads.

22. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first broadcast period comprises low broadcast and/or client usage periods.

23. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said second broadcast period comprises high broadcast and/or client usage periods.

24. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said first broadcast period comprises a period of relative low

activity of said broadcasts or client usage and said second broadcast period comprises relatively high activity of said broadcasts or client usage.

25. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein first data type is broadcast before said second data type.

26. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 25, wherein said first data type is broadcast with a non-enable flag so that it will be stored at said client, but not enabled for immediate use.

27. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 26, wherein said second data type is broadcast with a non-enable flag so that it will be stored at said client, but not enabled for immediate use.

28. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said step of enabling the use of the combined data types includes transmission of an enable flag to said client.

29. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said client is a digital consumer electronics radio.

30. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said client is any of a: handheld computer device, wireless telephone, radio telephone, portable computer, or home consumer electronics.

31. A method for dynamic scheduling of broadcast digital data content to client devices, as per claim 17, wherein said data content sources include any of, or a combination of: advertisers, the Internet, the world wide web, ISPs, or connected digital libraries.

32. A method for dynamic scheduling of broadcast digital data content for client devices, said method comprising:

receiving first data content from a digital broadcast source;

storing in local storage said first data content as background data;

receiving second data content, said second data content comprising any of, or a combination of: missing data from said first data content, new data associated with said first data content, new data unrelated to said background data, changes in data previously received;

combining associated first and second data content; and

activating any of said received first data content, second data content or said combined associated data content during a specific scheduled time period.

33. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said first data content requires a high bandwidth and said second data content requires a relatively lower bandwidth.

34. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said first data content comprises any of, or a combination of: images, fixed display data, graphics, song compilations, digital data purchases, or maps.

35. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said second data content comprises any of, or a combination of: text or audio to accompany said images, fixed display data, or graphics; new songs, traffic conditions, and data to complete said first data content.

36. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said first data content is received during low broadcast and/or client usage periods.

37. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said second data content is received during high broadcast and/or client usage periods.

38. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said first data content is received during a period of relative low activity of said broadcasts or client usage and said second data content is received during relatively high activity of said broadcasts or client usage.

39. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein first data content is received before said second data content.

40. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said first data content is received with a non-enable flag so that it will be stored, but not enabled for immediate use.

41. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 40, wherein said second data content is received with a non-enable flag so that it will be stored, but not enabled for immediate use.

42. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said activating step includes receiving of an enable flag at said client.

43. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said client is a digital consumer electronics radio.

44. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said client is any of a: handheld computer device, wireless telephone, radio telephone, portable computer, or consumer electronics.

45. A method for dynamic scheduling of broadcast digital data content for client devices, as per claim 32, wherein said data content originates from any of, or a combination of: advertisers, the Internet, the world wide web, ISPs, or connected digital libraries.

46. A business model comprising a series of steps for generating revenue, said steps including dynamic scheduling of broadcast digital data content to client devices, said client devices subscribing to one or more data content downloads, said model comprising:

receiving data content from content providers;

separating said data content into a first and second type;

scheduling said first data type to be broadcast during a first time period;

scheduling said second data type to be broadcast during a second time period;

broadcasting to one or more clients said first and second data types during their respective time periods such that they can be appropriately recombined at said clients;

detecting a successful completion of bulk delivery of said data content to clients with uplink device;

sending an activation message to said client to activate use of said data content during a scheduled time period; and

monitoring said client use to charge corresponding usage fees.